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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|-----------------|-------------|----------------------|-----------------------|------------------|
| 09/746,219      | 12/22/2000  | Diego Carmello       | CARP-0087             | 1142             |
| 7590            | 05/26/2005  |                      |                       |                  |
|                 |             |                      | EXAMINER              |                  |
|                 |             |                      | ELVE, MARIA ALEXANDRA |                  |
|                 |             |                      | ART UNIT              | PAPER NUMBER     |
|                 |             |                      | 1725                  |                  |

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/746,219             | CARMELLO ET AL.     |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | M. Alexandra Elve      | 1725                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 03 May 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-36 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-10, 15, 17-26 and 34 is/are rejected.  
 7) Claim(s) 11-14, 16, 27-33, 35 and 36 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 22 December 2000 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1.) Certified copies of the priority documents have been received.  
 2.) Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3.) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Drawings***

New corrected drawings will be required if this application is in condition for allowance because drawings are informal. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings.

***Claim Objections***

Applicant is advised that should claim 26 be found allowable, claim 34 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 & 6 are rejected under 35 U.S.C. 102(b) as being anticipated by

Hershkowitz et al. (US Pat. 5,883,138).

Hershkowitz et al. discloses a metallic monolith catalyst in which the fluid flow is parallel to the catalyst axis. The catalytically active metal may be in a variety of forms, one being a monolith. Figure 3 demonstrates the irregular shape of the cell perimeter. (abstract, figures, col. 3, lines 24-27, col. 4, lines 65-67, col. 5, lines 20-35, col. 7, lines 40-67, col. 8, lines 59-61, col. 9, col. 10, lines 12-58, col. 11, lines 14-26, col. 12, lines 1-3)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5, 7-10, 15, 17-26 & 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hershkowitz et al., as stated above and further in view of Matros et al. (US Pat. 6,314,722).

Hershkowitz et al. demonstrates the irregular shape of the cell perimeter, but not regular shapes such as, square, triangular, hexagonal or circular.

Matros et al. discloses a monolith catalyst, which has a square, circular, cylinder, or ring shape. Suitable catalysts include low temperature noble metal catalysts such as Pt/Al<sub>2</sub>O<sub>3</sub>, Pt/SiO<sub>2</sub>, or Pt on ion-exchanged zeolite. Many zeolite-based catalysts incorporate transition metals such as Fe, Cu, Co. Some alumina-supported catalysts are made up of AgAlO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub>, Sn/Al<sub>2</sub>O<sub>3</sub>. Common SCR metal oxide catalysts include TiO<sub>2</sub>-WO<sub>3</sub>-V<sub>2</sub>O<sub>5</sub>. The catalytically active cylindrical monolith is 14 inches (355.6 mm) in diameter and 10 inches (254 mm) in length. It may be constructed from a standard metallic substrate formed from two sheets of metal foil, 0.5 mm thick, and rolled together in a spiral shape. One of the sheets is flat and the other is corrugated. The straight through channels formed between the corrugated and flat foil sheets are approximately 1.5 mm in size. The cell density of the channels, in cross section of the block, is about 200 cells per square inches (200 cpsi) and the total volume of the block is about 25L. a wash coat of base metal may be applied to the block. (abstract, figures, col. 2, lines 1-5, 37-38, col. 3, lines 35-67, col. 4, lines 35-66, col. 5, lines 1-10, col. 9, lines 49-67, col. 10, lines 1-29, col. 11, lines 40-60)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use different cell shapes, materials and dimensions, as taught by Matros et al. in the Hershkowitz et al. monolith catalytic system because different cell shapes, materials and dimensions allow the flow conditions and hence reaction kinetics to be tailored to the required process.

***Allowable Subject Matter***

Claims 11-14, 16, 27-33, 35-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



M. ALEXANDRA ELVE  
PRIMARY EXAMINER

5/24/05